Warsaw, 20th February 2013

PIGEO’s Detailed Position
on Oversupply of Green Certificates

The Polish Economic Chamber of Renewable Energy (PIGEO), representing a broad range of entrepreneurs from all RES sectors, in particular entities investing in wind, solar, biomass and biogas power plants, as well as hydro and geothermal power plants, would like to express its concern about government’s inactivity in respect of ensuring stabilisation of the support system consisting in grant of the property rights, i.e. certificates of origin (so-called green certificates) to the manufacturers of energy from renewable sources.

The green certificate system was implemented in 2005 upon an act of law as a form of encouragement and compensation provided by the state to those investors who ploughed their money and got effectively involved in execution of the governmental plans concerning development of renewable energy sources in Poland. It meant in fact the government’s invitation addressed to entrepreneurs to participate in a kind of public-private partnership to which investors responded positively. As a result of this incentive scheme non-public funds were used to finance investment projects that in the sole wind sector amounted to approx. PLN 18 billion in the years 2005-2012, which considerably exceeded the amount spent for all other investment projects in the so-called conventional energy sector within the given period.

The value of the green certificates, being property rights that can be disposed of to obtain income that covers the costs of investment projects is determined by two factors – the value of the so-called substitute fee and the growing obligation to prove the share of renewable energy in the final energy supply, specified for subsequent years. Legal regulations admit fulfilment of the abovementioned obligation by application of one of the two following methods – either by obtaining green certificates from RES energy manufacturers and provision them for redemption by the President of the Energy Regulatory Office or by payment of the substitute fee (the amount of the ‘green’ energy that must be reported multiplied by the unit substitute fee). A ‘mixed’ form of fulfilment of the given obligation is also allowed. However, it is illusively a typical capital market – in practice the value of the certificates that are not needed to fulfil the obligation (surplus) and have not been acquired on the market may amount to over a dozen Polish zloty and be lower than the so-called threshold costs of particular RES technologies.

However, the government’s representatives have declared their intention to ensure a long-term stability of this support system, including the minimum guaranteed income that reduces the investment risk, which has been officially confirmed on 7th December 2010, in the document adopted by the Council of Ministers of the Republic of Poland – the National Action Plan concerning RES energy. One of the mechanisms that is to guarantee the proper value of the certificates was to be determination by the government of the obligation of the RES share in the final energy supply at a level slightly exceeding the scale of the executed investment projects.
The progressing fall of the value of certificates of origin on the Polish Power Exchange, observed for over a dozen months (Fig. 1), that at the turn of 2012/2013 reached a drastic level (in mid-February 2013, the price of the certificates was slightly over 1/3 of their par value) and the complete inactivity of the government mean in fact the state’s withdrawal from its declarations concerning the support system.

The results of such failures have already been dramatic:

- numerous entrepreneurs representing the wind and small hydro plant sectors, as well as the biogas sector are losing their ability to repay the credits incurred for the executed projects; in many cases companies have gone bankrupt;
- entrepreneurs that have recently launched agricultural biogas plants financed to a great extent with domestic and EU public funds are considering the option to stop manufacturing biogas due to the fall of income much below the operating costs,
- serious foreign investors that have developed their activity in Poland so far are selling their assets and transferring to other markets of European and Asian countries,
- investors who have obtained building permits to develop new investment projects are not starting construction works due to rejection of their loan applications by banks and other institutions providing financing, as well as due to refusal by a company dealing with trade of electricity to conclude a long- or short-term agreement on sale of green certificates at a price guaranteeing the investment profitability.

All the above must cause a breakdown of the market of new investments in renewable energy sources and serious problems to the already used sources. Maintenance or intensification of this
status quo will not only stop investment processes for years but also it will cause huge damage to the image of Poland as a place for investment.

Prolonging works on the complex legal solutions the adoption of which would determine the directions for energy sector development and indirectly also the condition of our economy for years intensify uncertainty and even disorientation among investors. Such negative effects could have been avoided by responding to numerous calls and analyses presented by PIGEO on the case concerned, including in particular the positions developed in respect of the National Action Plan (June 2010), the draft ordinance concerning the amounts of obligations to purchase green certificates within a new period (August 2010 and April 2011) and the draft Act on Renewable Energy Sources (February 2012 and October 2012).

Within the period of validity of the support system, i.e. from 2005, green certificates have been issued in the amount corresponding to approx. 52 million MWh of the produced energy. However, only a minor part thereof has been granted for energy produced from new, durable investment projects in the RES sector. The wind sector, the fastest growing sector so far, was granted nearly 15 percent of the green certificates within the period 2005-2011, but the sectors that invested little or nothing within the last years received approx. 80% of the issued certificates for generation of energy from the large-scale energy blocks existing for years, in the process of the so-called co-firing of biomass with coal and from the so-called large hydro plants, amortised a long time ago (Fig. 2).

The obligation to report a proper share of the RES in the supply of final energy is imposed on the entities that deal with trade of electricity and supply it to final customers. The value of the obligation, expressed as a percent value, refers to the net volume of electricity supplied to final customers in a particular year. For the years 2010-2012, a fixed rate of 10.4% was adopted (in other words, an entity that supplied e.g. 100 MWh of electricity to final customers in 2012 must redeem the certificates of origin of 10.4 MWh).

The obligations for the years 2008-2011 were specified in the ordinance of the Minister of Economy of 14th August 2008 (Dz.U. of 2008 No. 156, item 969) and for the years 2012-2021 – in the new ordinance of the Minister of Economy of 18th October 2012 (Dz.U. of 2012, item 1229 ). The obligation pertaining to the previous year shall be fulfilled by 31st March 2013.

A considerable number of certificates were granted for the energy produced from the biggest in the world energy blocks where large amounts of imported biomass, calculated in hundreds of thousands of tonnes per year, are combusted. The proportions prove that the current solutions are absurd, and the government does not show determination to take any actions to counteract the status that is dangerous to the RES sector. The collected data prove also that the additional costs borne by the final customers in respect of green certificates are generally not used to finance durable investment projects concerning new RES generation capacities (which was a foundation of the support system created in 2005), but they are spent to cover the costs of the current operating activity of state-owned companies.
The breakdown of the certificate market is partly caused by oversupply of certificates. The fast growing production volume and maintenance within the years 2010-2012 of the obligation at the same level of 10.4% considerably exceeded the expectations of the Ministry of Economy. The main reason, apart from tolerance of the anomaly concerning dominance of the RES electricity market by large-scale biomass and large-scale hydro energy, is underestimation by the Ministry of Economy of the amount of the obligation that shapes the demand of green certificates. Moreover, a major part of the given obligation was fulfilled by entities obliged to pay the substitute fee of a value exceeding the market value of green certificates, which systematically increased the volume of certificates that are not subject to redemption. We estimate that within the period 2005-2011, the accumulated overhang reached the level of 2.9 TWh, i.e. 2.9 million MWh. When we add the surplus generated in 2012, the overhang can reach 5.3 TWh, which is over 40% of the green certificate volume that should be redeemed to fulfil the obligation for the year 2012 (Fig. 2).

Within the last years, Poland has experienced increase of RES electricity and at the same time – maintenance of the volume of net electricity supplied to final customers at an approximately similar level. Therefore, and due to maintenance in the ordinance of the amount of obligation at the same level for three years in a row, more certificates than necessary to confirm fulfilment of the obligation specified in the ordinance of the Minister of Economy have been placed on the market. The new ordinance published in October 2012 provides for a rule that the amount of the obligation for the year 2013 is increased up to 12%. The demand for green certificates will be increased by nearly 2 TWh, which means that when production of RES electricity is maintained in 2013 at the level of the year 2012 (PIGEO estimates, that in 2012 the production of electricity from RES amounted on a level of 15 TWh, although, according to the information provided by the Ministry of Economy during the conference on 20.02.2013 it can be even higher and reach 16.8 TWh), there will be still the surplus of green certificates over 5.5 TWh! (or even more, in case the forecast of the Ministry of Economy related RES electricity production in 2012 will come true). If in 2013 the electricity production is increased to 18 TWh (estimates of PIGEO), then the overhang, regardless of the increased obligation, will exceed 8 TWh! Within the next years, until 2021, the obligation will be increased annually by one
percent point. The above means that in the year 2020, a key year to fulfil the community obligations, the amount of the obligation will be 19% (Fig. 3).

Although the numbers referred to above seem to prove that Poland is ahead of the transitory targets specified in the energy strategies, including the ones resulting from the community obligations, it is illusive. In practice, such drastic fall of the green certificate prices on the stock exchange means not only disturbance of development of the wind or biogas sectors, but also a growing risk of a breakdown of energy production in the processes of multi-fuel firing and biomass firing where the green certificate was a source to cover higher operating costs. It also brings into question durability of the reached ratios of the share of RES energy, because the sources using biomass can be almost immediately transformed to operate only as coal firing plants.

Without prompt legal changes the oversupply phenomenon will not be levelled, and the community targets will not be reached not only because production at the operating facilities is stopped due to the market breakdown. The community obligations have been calculated based on a different methodology than the one adopted for the purpose of the ordinance. In December 2010, the Council of Ministers adopted, upon Directive 2009/28/EC, the National Action Plan that specifies that the share of RES electricity will reach 19% by 2020. The share concerned has been calculated in relation to the gross final consumption of energy and not the net one as in the ordinance of the Minister of Economy. The government estimated in the National Action Plan that the difference between the GROSS and NET final consumption of electricity (the gross value corresponds to the net value increased by the losses in the energy supply process and use of energy by the production sector itself) will be approx. 70 TWh in 2020 (Fig. 4).
PIGEO believes that in order to reach the 19 per cent share of RES electricity in 2020 calculated according to the methodology provided for in the directive one would have to systematically increase the amount of the obligations from the year 2013 so as it is at the level of 25% in 2020. This means that the amounts of obligations adopted by the Minister of Economy in the ordinance four months ago are underestimated by approx. 6% each year. The value concerned corresponds to the volume of green certificates in the current year at the level of approx. 7.8 TWh. It looks like the given value is not much different than the oversupply of green certificates on the RES market in Poland accumulated in the period 2005-2013, estimated by PIGEO for the year 2013. The minimum value of production of electricity from renewable sources to fulfil the obligations specified in the ordinance and the National Action Plan is presented in Fig. 5.

Fig. 4. Total final consumption of energy in Poland in 2005-2020. The data for 2005-2011 – based on the statistics of Eurostat and the Energy Regulatory Office, respectively. The data for 2012-2013 – the estimates of PIGEO. The data for 2014-2020 – based on the National Action Plan and the justification of the ordinance of the Minister of Economy of 18th October 2012, respectively.

Fig. 5. Volume of green certificates required upon the ordinances of the Minister of Economy to fulfil the obligations and gross production (consumption) of electricity from renewable sources based on the statistical data of the Energy Regulatory Office (2005-2011), estimates of PIGEO (2012-2013) and the scenario of the National Action Plan (2014-2020).
Maintenance of the underestimated amounts of the obligations in the ordinance and at the same time increase of production of RES electricity to the levels imposed by the directive results in oversupply of green certificates at an accumulated level of as much as approx. 35 TWh in 2020 (Fig. 6), and in the year 2020 only – as much as 7.7 TWh. However, according to the ordinance the demand for green certificates in 2020 will be only 25 TWh whereas the production volume expected according to the strategy provided for in the National Action Plan – approx. 32.4 TWh (Fig. 7). The data show how inefficiently the amount of obligations was designed. It results in failure to fulfil the duties and at the same time – in a huge oversupply leading to suspension of any RES investment projects.

Unfortunately, the oversupply generated in 2005-2012 is so large that even if for the years 2013-2020 the amount of obligations was transferred to the ordinance from the National Action Plan, the respective calculation would not eliminate the resultant overhang of green certificates (Fig. 7).
PIGEO is of the opinion that in order to do away with the oversupply phenomenon and to reach the targets specified in the National Action Plan, the amount of obligations in the ordinance should be as specified in Fig. 8. Fulfilment of the obligations based on PIGEO’s model is presented in Fig. 9. The model assumes that in 2013 the amount of obligation adopted will allow to level the value of the accumulated oversupply to approx. 0.6 TWh. In the subsequent years, the amount of the obligation will be maintained at the same level to ensure demand (slight deficit of certificates), however observing the rule that the value of the substitute fee paid to the account of the National Fund for Environmental Protection and Water Management does not exceed the equivalent of 1.5 TWh per year. It is worth mentioning that the obligation specified in PIGEO’s model for the year 2020 coincides with the scenario of the National Action Plan.
In every debate about support of the RES development the problem of influence of the support system on the price of energy paid by the final customer is discussed. The costs relative to the fulfilment of the obligations, transferred to the unit price paid by the final customer in PIGEO’s scenario are presented in Fig. 10.
Determination of the influence of application of PIGEO’s scenario on the price of energy charged from final customers is based on the rule that green certificates are purchased at a price of the determined unit substitute fee the value of which will be annually indexed by inflation rate in the years 2014-2020. For the purpose of calculations the inflation rate of 3% per year has been adopted. Excise tax refund due to redemption of the green certificate from 2010 has been taken into account. The projection covers the period up to the year 2020, inclusive. After the given period expires, the green certificate support system will be older than 15 years to certain sources. If support is no longer provided to such sources, after 2020 the costs of the RES development will fall and as a result the weighted average costs of the RES development will be lower than presented for the year 2020.

The results of fulfilment of the scenario concerned can be as follows:

- levelling of the oversupply of certificates of origin and restoration of the support system stabilisation until 2020, inclusive;
- reaching the community targets in terms of electrical power engineering that are of key importance to reach the general target of 15-percent share of the RES in the balance of the gross final consumption of energy;
- from 2014 to 2020, the National Fund for Environmental Protection and Water Management will receive a total amount of approx. PLN 3.2 billion to support broadly understood actions relative to environmental protection.

The amount of the obligations can be properly reduced, if the government decides to limit support provided to the technologies of co-firing of biomass and firing of biomass in large facilities dedicated to biomass that have nothing to do with the sustainable RES development and to limit support to already amortised large hydro plants.

Further delay in commencement of the legislative works on complex regulation of the RES development rules in Poland deepens the concern of investors and can lead to a total blockade of development of the modern distributed energy generation.

PIGEO believes that all the following legal solutions should be applied immediately:

- introduce the minimum price of purchase of green certificates at a level of at least 90% of the unit substitute fee, excluding long-term contracts in the case of which the purchase values and the valorisation mechanism can be determined in a more flexible manner;
- introduce the amounts of the obligation for the particular years to the ordinance as proposed by PIGEO or determine the same in the act of law as minimum amounts;
- the amount of the obligation proposed by PIGEO for the year 2013 can be lower, if the intervention buy-out of the surplus is started, using e.g. the funds collected in previous years from substitute fee payment in order to immediately restore a reasonable level of prices charged in stock exchange transactions (excluding long-term contracts);
- limit support of energy produced from old, large and amortised hydro plants to the level justified by the additional costs of exploitation, as well as of energy produced from large plants firing biomass or co-firing biomass with coal;
- imports of biomass for energy purposes should be limited by introduction of the obligatory certification of biomass as a basic criterion, by introduction of the carbon footprint that limits imports of biomass from third countries, from large distances and a ban on direct or indirect use of compact wood should be introduced;
- in respect of large-scale facilities heated with coal the ability to adjust the existing blocks to multi-fuel firing should be frozen;
- in respect of new installations using biomass the maximum power should be limited to 20 MWel and/or 50 MWth.

The proposed measures constitute a temporary solution for stabilization of the support system for completed as well as for planned RES investment projects to be taken urgently. Simultaneously, there is a need for working on the comprehensive support of renewable energy sector development on the basis of the Act on renewable energy sources.

We would like to request the authorities to take immediate legislative actions that will prevent events fatal to the whole energy sector and the finance sector.